## PATENT COOPERATION TREATY **PCT**

REC'D 06 JUN 2005

INTERNATIONAL PRELIMINARY REPORT ON PATENTABEDITY (Chapter II of the Patent Cooperation Treaty)

PCT

(PCT Article 36 and Rule 70)

|  | ·   |  |  |  |  |  |
|--|---|--|--|--|--|--|
| Applicant's or agent's file reference 8117487/PCT  | FOR FURTHER ACTION  | See Form PCT/IPEA/416                      |  |  |  |  |
| International application No.  | International filing date (day/month/)  | vear) Priority date (day/month/year)       |  |  |  |  |
| PCT/SG2004/000205  | 9 July 2004   | 9 July 2003                                |  |  |  |  |
| International Patent Classification (IPC) or   | national classification and IPC   |  |  |  |  |  |
| Int. Cl. 7 Cl2N 1/16, 1/19, Cl2Q 1/00  |   |  |  |  |  |  |
| Applicant NATIONAL UNIVERSITY OF   | SINGAPORE et al   |  |  |  |  |  |
| 1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.   |   |  |  |  |  |  |
| 2. This REPORT consists of a total of 3 sheets, including this cover sheet.  |   |  |  |  |  |  |
| 3. This report is also accompanied by AN   | NEXES, comprising:  |  |  |  |  |  |
| a. (sent to the applicant and to the   | ne International Bureau) a total of sh  | eets, as follows:                          |  |  |  |  |
| sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).  |   |  |  |  |  |  |
| sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.  |   |  |  |  |  |  |
| b. (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)), containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). |   |  |  |  |  |  |
| 4. This report contains indications relation   | ng to the following items:  |  |  |  |  |  |
| X Box No. I Basis of the rep   | ort   |  |  |  |  |  |
| Box No. II Priority  | Priority  |  |  |  |  |  |
| Box No. III Non-establishm   | ent of opinion with regard to novelty, is   | nventive step and industrial applicability |  |  |  |  |
| Box No. IV Lack of unity of  | f invention   |  |  |  |  |  |
|  | Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |  |  |  |  |  |
| Box No. VI Certain documents cited   |   |  |  |  |  |  |
| Box No. VII Certain defects  | Box No. VII Certain defects in the international application  |  |  |  |  |  |
| Box No. VIII Certain observa   | Box No. VIII Certain observations on the international application  |  |  |  |  |  |
| Date of submission of the demand   | Date of comp  | letion of the report                       |  |  |  |  |
| 7 February 2005  | 30 May 200  | i  |  |  |  |  |
| Name and mailing address of the IPEA/AU  | Authorized Of   | ficer                                      |  |  |  |  |
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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SG2004/000205

| _         | No. I   | Basis of t  | the report      |   |  |  |  |
|-----------|---|---|-----------------|---|--|--|--|
| 1.        |   | regard to the lan   |                 | report is based on the international application in the language in which it was filed, unless . m. |  |  |  |
|           |   | This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:  |                 |   |  |  |  |
|           |   | internation   | nal search (ı   | under Rules 12.3 and 23.1 (b))  |  |  |  |
|           |   | publication of the international application (under Rule 12.4)  |                 |   |  |  |  |
|           |   | internation   | nal prelimin    | ary examination (under Rules 55.2 and/or 55.3)  |  |  |  |
| 2.        | furni.<br>filed'  | With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report): |                 |   |  |  |  |
|           | M   | •   | application     | as originally filed/furnished   |  |  |  |
|           | Ш   | the description:  |                 |   |  |  |  |
|           |   |   | pages<br>pages* | as originally filed/furnished received by this Authority on with the letter of                      |  |  |  |
|           |   |   | pages*          | received by this Authority on with the letter of  |  |  |  |
|           |   | the claims:   |                 |   |  |  |  |
|           | _   | •   | pages           | as originally filed/furnished   |  |  |  |
|           |   |   | pages*          | as amended (together with any statement) under Article 19   |  |  |  |
|           |   |   | pages*          | received by this Authority on with the letter of  |  |  |  |
|           |   | the drawings:   | pages*          | received by this Authority on with the letter of  |  |  |  |
|           |   |   | pages           | as originally filed/furnished   |  |  |  |
|           |   |   | pages*          | received by this Authority on with the letter of  |  |  |  |
|           |   |   | pages*          | received by this Authority on with the letter of  |  |  |  |
|           |   | a sequence listing  | g and/or an     | y related table(s) - see Supplemental Box Relating to Sequence Listing.                             |  |  |  |
| 3.        |   | The amendments  | s have resul    | ted in the cancellation of:   |  |  |  |
|           |   | , the desc  | ription, pag    | es  |  |  |  |
|           | ·   | the clair   | ms, Nos.        | ·   |  |  |  |
|           |   | the drav  | vings, sheet    | s/figs  |  |  |  |
|           |   | the sequ  | ence listing    | (specify):  |  |  |  |
|           |   | any tabl  | e(s) related    | to the sequence listing (specify):  |  |  |  |
| <b>4.</b> | This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)). |   |                 |   |  |  |  |
|           |   | the desc  | ription, pag    | es  |  |  |  |
|           |   | the clair   | ms, Nos.        |   |  |  |  |
|           |   | the drav  | vings, sheet    | s/figs  |  |  |  |
|           | the sequence listing (specify):   |   |                 |   |  |  |  |
|           |   | any tabl  | e(s) related    | to the sequence listing (specify):  |  |  |  |
|           |   |   |                 |   |  |  |  |
| ķ         | If ite  | em 4 applies, some  | or all of thos  | se sheets may be marked "superseded."   |  |  |  |

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No. PCT/SG2004/000205

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

| 1. | Statement                     |               |     |  |  |  |
|----|-------------------------------|---------------|-----|--|--|--|
|    | Novelty (N)                   | Claims 1-48   | YES |  |  |  |
|    |                               | Claims        | NO  |  |  |  |
|    | Inventive step (IS)           | Claims 1-48   | YES |  |  |  |
|    |                               | Claims        | NO  |  |  |  |
|    | Industrial applicability (IA) | Claims 1 - 48 | YES |  |  |  |
|    |                               | Claims        | NO  |  |  |  |

## 2. Citations and explanations (Rule 70.7)

Citations

D1 DAHLQVIST, A., et. al. Proceedings of the National Academy of Science 97(12):6487-92 D2 WO, A1, 2000/060095

Neither D1 or D2 disclose or suggest the claimed invention, and therefore the claimed invention appears to be both novel and inventive.